AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

THOMAS G. NEWMAN, EDITOR.

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Could I Write, with ink unfading,
One brief code for youths and men;
Could I show its all-pervading
Power in progress, I would pen—
Try it.

Thus it was, will be forever;
If "to be" man has in view,
Men must live with firm endeavor
Well to think, then plan, then do;—
Try it.

—*The Current.*

Frank Cheshire's New Book will cost $5.00 for the 2 Volumes. They are beautifully bound. Vol. I is now ready, and we are filling orders at $2.50 per Volume. The duty and expressage is so high that they cannot be sold for less. Our offer to take orders at a less price is now recalled.

Another New Bee-Paper is on our desk. It is called "*The Bee-Hive*," and is to be published bi-monthly by E. H. Cook, Andover, Conn. It contains 8 pages, and 6 numbers will make a yearly volume, and the price is 20 cents. It is nicely printed and well edited.

A Downward Tendency in the prices of bee-keepers' supplies is quite apparent in our advertising columns. The bee-keepers who read the AMERICAN BEE JOURNAL will always be sure to learn where to buy and what the market prices are. It pays to keep posted.

"Ah! There!" Were you just writing something to send to the AMERICAN BEE JOURNAL, for publication? If it was on "hibernation" or "reversible hives"—please put it into the fire, or send it to some other paper! We shall publish those communications now on hand, as soon as convenient, but *cannot accept any more*, unless it be simple explanations called for by previous articles published. Give the "hibernation theory" and "reversible hives" a rest for a year or two, and write about something else!

Those Who Claim that Bees Injure Fruit, should carefully read the article on page 245, being a Report of Experiments by Mr. N. W. McLain, at the United States Apicultural Station, at Aurora, Ills., made at the Department at Washington, and published in the Official Reports of the United States Entomologist. These experiments show most conclusively that the bees never injure sound grapes, even when on the verge of starvation. Many similar experiments we have heretofore published, but this adds another proof by carefully conducted and thoroughly guarded experiments under the fostering care of the United States Government. To California grape and raisin growers, who are now prosecuting a bee-keeper there for injury said to be done to their grapes, should make a note of this and stop their jealous and foolish persecutions of bee-keepers.

The Academy of Natural Sciences, of Davenport, Iowa, has our thanks for a pamphlet on "Elephant Pipes," by the late president of that institution.

New Subscribers are being enrolled on our books very lively during the present year. In addition to all the renewals of *old* subscribers, the *new* ones will average hundreds every week since January. "Wide-awake" supply dealers are not slow to discern this, and are crowding the advertising columns of the AMERICAN BEE JOURNAL with their announcements. Where the carcass is, there will the eagles congregate," is a trite but truthful remark.

Simmins' Non-Swarming System is the title of a new English bee-book. It contains 64 pages; is well printed and illustrated. The author claims that it will inaugurate a "new era in modern bee-keeping," and states that "it is based upon purely natural principles, and is the only system that can ever be relied upon, because no other condition exists in the economy of the hive that can be applied to bring about the desired result—a total absence of any desire to swarm." Published by S. Simmins, Rottingdean, Brighton, England.

The Illustrated Graphic News of Cincinnati, O., of April 17, is a marvellous exhibition of enterprise, containing 11 pages of original illustrations, including scenes from the riot in St. Louis; and the floods in the South. The *Graphic News* contains altogether 24 pages, including a double supplement and cover. Bill Nye and Nym Crinkle begin their contributions this week.

"Socialistic Movements in England and the United States," which opens the May number of *Frank Leslie's Popular Monthly*, is a most timely and well written article. It reviews all the ideal schemes put forward to bring about a state where all shall have equal enjoyment with the least possible labor, where there shall be no wealth, no crime. The stories by Florence Marryat, Charles L. Hildreth, W. H. Waitt, Ellinor Brooke and others, are all capital, and the other articles are full of interest.

The Prospect is Good, says Mr. C. H. Dibbern, in the *Plowman*. He gives this very sensible advice:

The prospects for the coming season are very good. It is true that the prices of honey are very low; but what is not low? The prospects of a good honey crop are now very encouraging. The ground has been well covered with snow, thus ensuring an abundant bloom of white clover, which is our best honey-plant; without it, I have never known a good year for honey. After all, everything depends on the abundance of honey-producing plants, and seasonable weather.

No matter how many hives of bees we may have, or what their condition, if the blossoms fail or do not secrete honey, the bees can get nothing, and the failure should be laid to the plants and weather rather than the bees. Honey is gathered, and not made, by the bees.

All material needed should be ordered now. Hives and sections should be made up, and everything possible be done before the busy times come. Plan now just what to do, and how to do it. In the "bee-business" more than anywhere else, we must drive the business, or it will drive us.

For Spring Feeding, Mrs. Harrison, in the *Prairie Farmer*, suggests the following:

The late cold storms, no doubt, caused the death of many a colony by starvation, and a vigilant eye must be kept on all remaining, lest they follow suit. In some winters bees consume much more honey than in others, so it is difficult to tell just how much is needed. I intended to feed those with insufficient stores last fall, enough to last until the return of nectar, but fearing that some might be lacking during the past inclement weather, I laid pieces of comb honey over the cluster upon the frames. Honey is the natural food for bees, and should be given them whenever obtainable, but when this is not to be had, a substitute is to be sought. Cakes of maple sugar put over the cluster will prevent starvation, and a syrup made of sugar the consistency of thin honey, such as the bees bring from the fields, should be supplied them, in vessels filled with straw cut up fine to prevent drowning. If the syrup is too thick, the bees will get sticky, and be unable to reach the cluster until their comrades clean it off. When bees are able to fly, food of inferior quality will not injure them, which would prove fatal, when they are closely confined to the hive.

A $5 Bill paid a debt of one hundred dollars in this way: A owed B $25; B owed C $25; C owed D $25; and D owed A $25. They met and paid each other in full with a $5 bill, which A took from his pocket and handed to B; B to C; C to D; and D to A. That left each one in debt but $20. They repeated 4 times more and A pocketed the bill; their debts of just $100 having all been paid with it. This illustrates how a small amount of money kept in constant circulation may cancel thousands of obligations. Do not therefore "hoard up" any money. As soon as you have it on hand pay a debt with it, and thus help others to pay their debts. This is good, honest and square advice to everybody.

The 11th Annual Meeting of the Association of Nurserymen, Florists and Seedsmen will be held in the Department of Agriculture Buildings, Washington, D. C., commencing Wednesday, June 16, 1886, and continuing three days. The Association is the largest body of Horticulturists in the country. An outline programme, hotel and railroad arrangements and other information may be obtained by addressing the Secretary, D. Wilmot Scott, Galena, Ills.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Queen-Excluders.

Query, No. 239.—When hiving swarms, what kind of queen-excluders are best for preventing queens from entering supers, and how are they constructed?—Iowa.

The most perfect are probably the zinc queen-excluders as sold by supply dealers.—C. C. MILLER.

The best I have found are those made of perforated-zinc, and I have found them to answer the purpose most admirably.—J. E. POND, JR.

Perforated-zinc is good, but a cheaper one can be made by using a thin board with slots cut in it to allow the bees to pass through, but will prevent the queen and drones.—H. D. CUTTING.

In my opinion, based on some experience, the best excluder is a good, tight bee-quilt between the apartments till the queen has commenced to lay in the brood-combs, which will be in two or three days after the swarm is hived. After this the queen is not apt to go above as long as she has room below. The best queen-excluder to be used over the narrow-top frames is a plate of perforated-zinc fixed in a frame like a school-slate in its frame, and used as honey-boards are used.—G. W. DEMAREE.

I always hive swarms on full sheets of foundation, not on combs, and I need no queen-excluders to keep the queen out of the sections, even if I put them on, full of foundation, at the time of hiving. If I did, I should use either an all metal, or part metal and part wood queen-excluding honey-board.—JAMES HEDDON.

Do Queens Lay Drone Eggs?

Query, No. 240.—Does any one know that queens lay drone eggs? Or is it not the food that does the business? If with queens, why not with drones?—Pa.

It is quite evident that virgin queens lay drone eggs.—H. R. BOARDMAN.

I have many good reasons for believing that queens lay drone eggs, that would be too lengthy to give here. I also have reasons for believing that food cannot make an egg laid for a drone produce aught but a drone.—G. M. DOOLITTLE.

Everybody knows that queens lay drone eggs, and that the food has nothing to do with the sex. Drones are males, and queens and workers are females, though the workers are imperfect females.—DADANT & SON.

Because it is not Nature's way to have food perfect the female, and lack of fecundation of egg, result in male. There is no possible doubt. The same is true of wasps and ants.—A. J. COOK.

Yes. Workers are partially developed females; food and abundant room develop into a queen, what would have been a worker. There are really only two sexes in the bee-hive, male and female, the workers not being sufficiently developed to perform the maternal office.—W. Z. HUTCHINSON.

I have never seen a queen laying in drone-cells, but I have often seen one on drone-comb when there were freshly laid eggs, and her presence did not seem to be a coincidence. Food can have nothing to do with changing the sex of eggs.—G. L. TINKER.

The Most Honey and Increase, etc.

Query, No. 241.—From which colonies can the most honey and increase be obtained—those worked for comb honey or for extracted honey? At what distance from the ground should the hives set?—R. L.

1. Extracted. 2. Four to 6 inches.—C. C. MILLER.

1. Usually extracted honey. The most money and increase can be obtained from the production of comb honey. 2. I place mine about 6 inches from the ground.—JAMES HEDDON.

1. Extracted honey. 2. From 6 to 12 inches; in this locality with clean culture I prefer 6 inches.—H. D. CUTTING.

1. It would depend upon the management. If the honey is not extracted till after it is all sealed, as I believe is the proper way, and "tiering-up" is practiced in both cases, there will be but little difference as to natural increase, while the weight of honey will be in favor of extracted. 2. I prefer hives to be about 6 inches from the ground.—G. W. DEMAREE.

1. It will depend somewhat upon the locality, but as a rule from those worked for extracted honey. 2. I prefer to place my hives down on the ground, as then the bees have no trouble in finding their way into the entrance, as they sometimes do, when the hives are placed upon a high stand.—J. E. POND, JR.

Convention Notices.

☞ The annual meeting of the Northern Ohio Bee-Keepers' Association will be held in the New Town Hall at Wellington, O., on Friday, April 30, 1886. All are invited to come and help make the meeting both pleasant and profitable. A special invitation is extended to the ladies. The officers of the Association will be elected at this meeting.
H. R. BOARDMAN, *Sec.*

☞ The next meeting of the Linwood Bee-Keepers' Association will be held in Condit's Hall at Rock Elm, Wis., on Saturday, May 1, 1886, at 1 p.m. All interested in bee-keeping are cordially invited to attend and make this a profitable meeting.
B. J. THOMPSON, *Sec.*

☞ The Illinois Central Bee-Keepers' Association will hold its next meeting at Mt. Sterling, Ills., on Tuesday and Wednesday, Oct. 19 and 20, 1886.
J. M. HAMBAUGH, *Sec.*

☞ A cordial invitation is extended to all to attend the 8th annual meeting of the Texas State Bee-Keepers' Association, to be held at Judge W. H. Andrews' bee-farm, at McKinney, Tex., on May 5 and 6, 1886. Indications for a grand meeting grow brighter every day, and every effort will be made to render this meeting the best and largest ever held in the State. No hotel bills to pay.
B. F. CARROLL, *Sec.*

☞ The next annual meeting of the Western N. Y. and Northern Pa. Bee-Keepers' Association will be held at Randolph, N. Y., on May 4, 1886.
A. D. JACOBS, *Sec.*

☞ The DesMoines Co. Bee-Keepers' Association will meet at the Court House in Burlington, Iowa, on Tuesday, Apr. 27, 1886, at 10 a.m. Any articles sent to the President, Mr. Geo. Bischoff, at Burlington, for exhibition, will be well cared for and returned or sold, as the sender may direct. A cordial invitation is extended to all interested in bee-keeping.
JOHN NAU, *Sec.*

☞ The semi-annual meeting of the Western Bee-Keepers' Association will be held in Pythian Hall, N. W Corner of Main and 11th Sts., (entrance on 11th St.), at Kansas City, Mo., on Apr. 29 and 30, 1886. The Cable Line can be taken from the Union Depot for 9th and Main Sts. The following essays will be read: "The Honey Market," by Clemons, Cloon & Co.; "Bee-Keeping in Iowa," by E. Kretchmer; "Best method of handling bees for comb honey," by A. A. Baldwin; "Missouri Bee-Keeping," by J. D. Pearce; "Does bee-keeping pay as a pursuit?" by Jos. Nysewander; and "Invertible Frames and Hives," by J. M. Shuck.
P. BALDWIN, *Sec.*

☞ The next meeting of the Cortland Union Bee-Keepers' Association will be held at Cortland, N. Y., on May 11, 1886, at 10 a.m.
D. F. SHATTUCK, *Sec.*

☞ The next annual meeting of the Michigan State Bee-Keepers' Association will be held in Ypsilanti, Mich., on Dec. 1 and 2, 1886.
H. D. CUTTING, *Sec.*

☞ The Central Michigan Bee-Keepers' Association will meet on May 18, 1886, with Capital Grange at their Hall in North Lansing, Mich., to hold 3 sessions, viz: Forenoon, afternoon and evening. All interested in bee-culture are invited to attend and bring articles of the apiary for exhibition. For any special information address the Secretary.
E. W. WOOD, N. Lansing, Mich.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; ○+ east; +○ west; and this ♂ northeast; ○- northwest; -○ southeast; and ♀ southwest of the centre of the State mentioned.

Official Report of U. S. Entomologist.

Bees vs. Fruit—Experiments.

N. W. M'LAIN.

For the purpose of testing the capacity of bees, under exceptional circumstances, to injure fruit, I built a house 16 feet long by 10 feet wide, and 8 feet high at the corners. Large doors were hung in each end, and a part of the siding on each side was adapted to be raised up on hinges. Screen doors were hung on the inside of the outer doors, and wire cloth covered the openings on the side where the siding was raised. The house is entirely bee-proof. When the sides are raised up, and the outer doors opened, the temperature and light in the house is substantially the same as outside. Along the sides of the house I built shelves upon which fruit was placed so that the rays of the sun might strike the different varieties in different stages of ripeness from green to dead ripe. Plates of ripe peaches, pears, plums, grapes, &c., were placed on the shelves; clusters of different kinds of grapes, green and ripe, sound and imperfect, and such as had been stung by insects, were suspended from the rafters and cross-ties of the house.

On September 1, I removed three colonies of bees from their hives, carefully and quickly, so that they would carry very little honey with them when transferred from one hive to another. Two of the colonies were hybrid bees, and one Italian. These colonies were hived on empty combs, and placed in the house with the fruit. A wood-stove was put in the house, and for a number of hours each day a high temperature was maintained. The physical conditions which would ordinarily prevail in nature during a protracted and severe drought were artificially produced and steadily maintained.

The bees were brought to the stages of hunger, thirst and starvation. The house was kept locked, and I carried the key.

Every inducement and opportunity was afforded the bees to satisfy their hunger and thirst by attacking the fruit exposed. They daily visited the fruit in great numbers, and labored diligently to improve the only remaining source of subsistence. They inspected and took what advantage they could of every opening at the stem or crack in the epidermis or puncture made by insects which deposit their eggs in the skin of grapes. They regarded the epidermis of the peaches, pears, plums and other fruits having a thick covering, simply as subjects for inquiry and investigation, and not objects for attack. If the skin be broken or removed they will, in case of need, lap and suck the juices exposed. The same was also true of the grapes if the skin was broken by violence or burst on account of the fruit becoming overripe; the bees lapped and sucked the juices from the exposed parts of grapes and stored it in the cells for food. They made no attempt to grasp the cuticle of grapes with their mandibles or with their claws. If the grapes were cut open or burst from overripeness the bees would lap and suck the juice from the exposed segments of the grape until they came to the film separating the exposed and broken segments from the unbroken segments. Through and beyond the film separating the segments they appear to be unable to penetrate. I removed the outer skin from many grapes of different kinds, taking care not to rupture the film surrounding the pulp. When these were exposed to the bees they continued to lap and suck the juices from the outer film until it was dry and smooth as was the film between broken and unbroken segments. They showed no disposition to use their jaws or claws, and the outer film as well as the film between broken segments remained whole until the pulp decayed and dried up.

After continuing the test for thirty days, using such varieties of fruit as could be obtained, I sent to Michigan for varieties not obtainable here. Through the kindness and favor of the president of the Michigan Horticultural Society, Mr. T. T. Lyon, of South Haven, Mich., I secured twenty varieties of grapes, which arrived in excellent condition. Another colony of Italian bees was then placed in the house with those already confined for forty days, and the twenty varieties of grapes were exposed upon plates and suspended from the rafters as before. The conditions naturally prevalent during a severe and protracted drought were again produced, and the test again continued for twenty-five days. The result was simply a repetition of the former test. The bees showed no more capacity or disposition to offer violence to one variety of grapes than another. No more attention was given the thin-skinned varieties than the thick-skinned. As long as the skin remained whole they did not harm the grapes. When the skins were broken by violence, such as by cutting or squeezing, the juices exposed were appropriated. The extent of damage the bees could do to grapes burst from overripeness depended on the extent of the rupture in the film surrounding the pulp. A wide rupture may be made in the epidermis, or it may be removed, and if the film is unbroken the pulp remained whole. The film seldom bursts until the grape is about to decay, or has begun to decay, and then the grape is of little value.

In order to determine the size of the opening necessary to be made in order that bees might injure grapes, I punctured the cuticle of the grapes in several bunches with cambric needles of various sizes. The puncture made with the point of medium-sized needles produced no effect. Neither does the puncture made by the sting of insects, when ovipositing, until the blister appears and decay progresses with the development of insect larvæ. I found that I might pass a medium sized needle through a grape, from side to side, and bees could obtain no juice except that oozing from the puncture. Many erroneously suppose that bees sting the grapes. Bees never sting except in self-defense or in defense of their homes from real or imaginary danger.

At times when bees could gather nothing in the fields I saturated clusters of grapes with honey and suspended them in front of the hives in the apiary, and from branches of trees and grape-vines near by. Other clusters dipped in honey and syrup were hung in the house. The bees thronged upon the grapes until the clusters looked like little swarms hanging to the vines and limbs. They lapped the grapes until the skins were polished perfectly smooth and shining like the inside skin of an onion, and no taste of sweet could be detected by touching the tongue to the grape. The skins of the grapes were left intact.

Bees, like some animals of a higher order, seem to enjoy stolen sweets better than any other. Taking advantage of their propensity to steal and despoil, I placed combs containing honey in an unoccupied hive and permitted the bees in the apiary to steal the honey and such portions of the comb as they could appropriate. I then suspended instead of the despoiled combs clusters of grapes dipped in honey. The bees attacked with desperate earnestness, apparently determined to literally go through those grapes. The clusters were left hanging for a day or two, until the bees had entirely deserted the hive, and examination showed the grapes to be as sound as when placed there, and the skins polished smooth and clean as before.

I then punctured the grapes of several clusters by passing a darning-needle through the berries from side to side, and hung them in the house near the hungry bees. They sucked the juices from the broken segments as far as they could insert their tongues into the wound, leaving a depression near the puncture, and the remainder of the pulp was left whole.

The instinct of bees impels them to remove everything useless or strange from their hive. They will labor harder to remove any object which is useless or offensive than for any other purpose. After passing a darning-needle through some of the grapes in several clusters of different varieties, I suspended these clusters from the

top of comb frames by using fine wire and placed them in the center of strong colonies of both hybrids and Italians. The juice was extracted from the punctured segments as before, and the perfect grapes hung undisturbed for fifteen days. They appeared to have kept better hanging in the hive than they would have kept on the vines.

The evidence then shows that bees do not injure perfect fruit. I have observed that they give no attention to the puncture and blight caused by the ovipositing of other insects, until after the larvæ is hatched and decay has set in, and then only in cases of extremity. The circumstances under which bees appear to be able to injure grapes are very exceptional. That they will not molest or even visit grapes when it is possible to secure forage elsewhere is certain. It also appears certain that they never attempt violence to the skin of grapes. The capacity of bees to injure overripe grapes is limited by the extent to which the juice and pulp are exposed by the bursting of the film. If the film is only slightly burst the bees can do but little injury. If the progress of decay has caused a wide rupture in the film the bees more readily appropriate the juice. If overripeness and decay have exposed the pulp of grapes to such an extent that bees can damage them seriously, the bees should be confined to the hive (unless the weather be excessively hot), and the grapes should at once be gathered, for from this stage the progress of decay is rapid. Confinement to the hive for a short time, while the overripe grapes are being gathered, would result in no loss and the bees would be prevented from gathering the grape-juice and storing it in the hive. Bees confined to their hives in warm weather must always have ample top ventilation, and should be liberated and allowed to fly half an hour before sunset each day during the term of their confinement. The excessive use of grape juice often produces inebriety. In the case of the bees it produces diarrhea. After grapes have arrived at the stage of overripeness and decay in which it is possible for bees to injure them, and the circumstances are so exceptional as to cause the bees to seek such food, it would be advantageous to the grape-grower to secure his grapes from the ravages of decay, and advantageous to the bee-keeper to secure his bees from the ravages of disease.

The following named varieties of grapes were used in making these tests: The Niagara, Delaware, Roger's No. 10, Roger's No. 14, Roger's No. 15, Roger's No. —, Taylor, Ives, Lady, Hartford, Martha, Concord, Northern Muscadine, Vergennes, Brighton, Pocklington, Worden, Isabella, Diana, and Syrians from California, and three other varieties the names of which I did not learn.

Mr. Richard Rees, a florist and horticulturist of many years' experience in the Eastern and Western States, informs me that he has very carefully observed the effect of bees upon flowers and fruits in the orchard, garden, and greenhouse. He regards their presence as wholly desirable and altogether beneficial. During a term of four years he had charge of a large conservatory and garden in this city. At times he had as many as fourteen different varieties of exotic grapes in bearing in the conservatory, and from 2 to 3 tons of ripe grapes hanging on the vines at once. A large apiary was located near by, and late in the fall and early in spring the flowers and fruits in the conservatory were visited by the bees in great numbers. The grapes were unmolested, and the bees aided in fertilizing the flowers. He says that he has had large experience in grape-growing in vineyards, and that he has never known any damage or loss resulting from bees, and that when grapes are burst from overripeness, or decayed and blighted by the hatching of insect larvæ, to such an extent that bees can appropriate their juices, they are of little, if any, value. He has never kept any bees, but he regards them as being of great service to floriculturists and horticulturists on account of the service rendered in fertilizing blossoms.

U. S. Apicultural Sta., Aurora, ♂ Ill.

For the American Bee Journal.

"Kindly Criticism."

WM. F. CLARKE.

Mr. J. E. Pond, Jr., has an article in the last issue of the *Bee-keeper's Guide* on the new Heddon hive, which he prefaces with a plea for free discussion, in the course of which he complains that bee-keepers are apt to regard adverse criticism as being actuated by a wish to injure the person or object criticized. This he disclaims, and avers that the opinions he is about to express, though adverse to the new hive, are of the nature of "kindly criticism." He concludes the article by saying that he has written "with malice toward none, and justice toward all."

In the course of his remarks Mr. Pond says of the new hive: "Mr. Heddon is very enthusiastic in regard to it; 'my friend' deems it the greatest output of the age; 'Bro. Clarke' sounds its praises with a big blast of his 'ministerial trumpet.'" I beg to ask if this reference to myself can be fairly called "kindly criticism," and if it is entirely harmonious with the principle of "justice to all." I go farther, and inquire if it is in strict harmony with truth? For in what sense have I sounded a "ministerial trumpet" in praise of the new Heddon hive? Did I quote Scripture in support of its claims? Did I bring any religious arguments to bear in its favor? As a *literateur*, I am somewhat versatile. I write on agriculture, apiculture, and even on politics as well as religion. It was well said once by a member of the military profession that the worst thing about the army was that *a soldier cannot be a man*. The same is true about the ministerial calling. No one is better aware than Mr. Pond that when I write on general topics, I write as a *man*, and he would be one of the first to object if I claimed that any special weight attached to my utterances because I am a minister. Does Mr. Pond sound the trumpet of a lawyer when he discusses bee-keeping? Only when he deals with patent rights. Then he manages to advertise his extensive knowledge and large experience as a patent lawyer.

It may be asked why not send this *critique* on Mr. Pond to the *Bee-keeper's Guide*? "Thereon hangs a tale," which is a pat illustration of the heading to this article. The March number of the bee-periodical just named contained an editorial paragraph, part of which reads as follows:

"It appears that James Heddon has organized a band. He is to play first fiddle. W. Z. Hutchinson, the second fiddle, while Rev. Clarke is to blow the horn. Prof. Cook is learning to play in hopes of getting in. The necessity of this band is to operate a new hive, etc., etc." I wrote the editor complaining of the injustice done to myself and the other gentlemen mentioned, by this style of remark. No notice of this communication is taken in the April number, nor has it been even acknowledged by private letter. The idea of my being hired as a member of the Heddon band to "blow the horn," seems to have struck Mr. Pond's fancy. Hence he produces it second-hand by speaking of my sounding "a big blast" with the "ministerial trumpet."

The phrase "kindly criticism" reads well, but there is an old proverb which suggests that we should be *just* before we are *generous*, and another which truly declares that "consistency is a jewel." It is "the unkindest cut of all" to say or to insinuate that what a man writes with protestations of honesty and impartiality is prompted by self-interest, or part of the set policy of a ring or clique banded together "to operate a new hive." If you consider me in error, say so freely and manfully; produce your strong reasons in support of the statement, and I shall think the better of you for so doing. But unjust reflections are not changed in character by calling them "kindly criticism," any more than a jar of glucose compound is redeemed by labelling it "pure honey."

Guelph, Ontario.

For the American Bee Journal.

Mr. Frank Cheshire's New Book.

DR. C. C. MILLER.

"Bees and Bee-Keeping; Scientific and Practical. A Complete Treatise on the Anatomy, Physiology, Floral Relations, and Profitable Management of the Hive Bee. By Frank R. Cheshire, F. L. S., F. R. M. S." This is the title in full of the book which has been in course of publication in parts, in London, by L. Upcott Gill, 170 Strand, W. C. Volume 1, the Scientific part, is now complete. It is beautifully bound in cloth, and contains 336 pages. Paper and print are both

excellent, but on turning over the leaves, that which most excites attention is the large number of illustrations. There are eight full page plates, beside 71 figures scattered throughout the book. No one is likely to imagine the exquisite delicacy of these illustrations without seeing them. They are, for the most part, to show the anatomy of different parts of the bee magnified 5 to 400 times. Mr. Cheshire gives in these pages the result of much painstaking labor as a microscopist. But ninety-nine out of every hundred bee-keepers will, like myself, find much beyond the range of their easy comprehension, and yet I think there will arise some desire to know more of it.

One cannot help a feeling of regret that such beautiful pages should be marred by the unkindly spirit shown toward Prof. Cook. Surely, the interests of science do not demand the least resemblance of any thing like an exhibition of personal dislike.

After speaking of the position of the hive-bee in the animal world, and giving its classification in the first chapter, the second chapter gives the economy of the hive-bee, including development from the egg, larva and pupa. Speaking of this development the author says (page 24) "in something more than 12 days from the time of sealing, the transformations are complete." Has this been verified by others? On the same page, speaking of the just-hatching bee, he says, it "bites at the door of its prison-house, into which it soon carves a long, curved slit....and then, by a push, it makes way for its emergency, the head is advanced as at N, and a pale but perfect bee walks into view." In the many cases which have come under my observation, it is not a simple cutting a slit then a single push and out it comes, but after cutting a slit the bee gives a push, finds more room needed, cuts again, then pushes again, and this may be repeated several times before the bee emerges. It may be said I am engaged in hair splitting, and in an ordinary work I should not notice this, but Mr. Cheshire is very severe upon others who are not strictly accurate in matters apparently more difficult of exact observation than this.

Chapter III treats of general structure, and Chapter IV of the nerve system. After speaking of the brain as showing intelligence superior to other insects, he says, "As we proceed, I shall have more than once to point out a misconception, which would appear to be all but universal amongst bee-keepers, and to show that the queen is not superior to, but greatly the inferior of the worker; and the brain bears evidence to this position, as that of the queen is relatively small, as is also that of the drone."

Chapter V treats of the digestive system, and Chapter VI of glands.

Chapter VII tells about the tongue and mouth parts, the wonderful mechanism by which "the bee is equipped to take advantage of all sources of supply. She can gulp down big draughts, or sip a stream of nectar so fine that 600 miles of it will, when evaporated, store but a 1-pound section-box."

The next chapter treats of the antennæ, the organs of touch, smelling and hearing. Think of 37,800 distinct organs in two antennæ of the drone! This chapter treats also of the eye with its thousands of facets.

The thorax and legs form the subject of Chapter IX. Since reading this book I think I can never again look upon a bee climbing a smooth surface without a feeling of profound admiration. Imagine that a person is trying to climb a wall by means of his finger nails, and that whenever the wall becomes so smooth that the nails lose their hold, the resulting closing of the fingers causing the instantaneous pressing of the flat of the knuckle against the wall, the knuckles being furnished with a substance so adhesive as to sustain the weight, and you have in a very clumsy way the idea which Mr. Cheshire so clearly brings out by the aid of his illustrations.

Chapter X has for its subject wings and flight, buzzing and humming. Four hundred and forty is given as the number of vibrations of the wings per second. The beat of the wings makes the buzzing, but the humming is a true voice.

In Chapter XI (secretion of wax, and bee architecture), we are told that in a square inch on one side of a comb there are 28 13-15 worker-cells, and 18 178-375 drone-cells.

Here, surely, is heresy, for every one knows that worker-cells measure 5 to the inch and 5x5=25. A moment's thought, however, will show that 25 is correct only on the supposition that the cell is a square, and a little figuring upon the surface of the hexagon will show 28 13-15 correct to within one-thousandth. The only wonder, after one's attention is called to it, is that so palpable an error should have passed unchallenged so long. As it makes the difference of 1,114 cells in a square foot of comb it is a matter of some consequence. The sealing of honey-cells is described as not absolutely impervious to air, although the author himself speaks of it in a former chapter (page 18) as air-tight.

The structure of the sting and its action is minutely described in Chapter XII, and the organs of the drone and queen in the next two chapters. The ground is taken that the queen never mates the second time, that drones reared from drone laying queens are fully virile, and that dwarf drones reared in worker-cells are probably virile, and that drones have no other use than to fertilize queens. Two interesting chapters, one on bees and flowers mutually complementary, and one on bees as fertilizers, florists, and fruit producers, close the volume.

I would give many times the price of this book to have its contents clearly in my head. Suppose there is nothing of direct practical value (and it may be of more practical value than I suspect), a full understanding of the wonderful mechanism of the different parts of the bee, and the beautiful adaptation of means to ends, gives one a thrill of delight that cannot but cause a greater enjoyment in his daily intercourse with these tiny creatures. Although not well posted in such matters, I have no idea that there is in the English language (or indeed in any language) anything approaching this volume in fullness of information and completeness of detail as to the subjects of which it treats.

Marengo, Ill.

For the American Bee Journal.

Honey for Bees in Winter.

J. E. POND, JR.

Mr. Heddon says: "I no longer doubt that practical success in wintering depends upon proper food and temperature." Why he should ever have had such doubts is a mystery, as the proposition, so far as it goes, has been a well established axiom for years. Under right conditions any colony will winter safely, is another axiom, and both of these propositions are of one and the same effect, the first being the lesser, and that contained in the last the greater.

What are right conditions? is the real question at issue: in other words, what combination of circumstances and things is necessary to produce the desired result? Winter losses do occur with all kinds of food, and in all temperatures; this is a significant fact, and shows conclusively that the conditions are not right; that something is lacking. As yet we have no really satisfactory proofs that sugar is a safer winter food than pure honey; and we have the strongest possible evidence that with other conditions right, pure honey is absolutely safe; and we have not as yet such proofs in regard to sugar. This being the case, and I have ventured the assertion on historical grounds solely, we have a strong argument against the use of sugar as winter food for bees when pure honey can be obtained. I will say nothing now in regard to honey being a natural food, as the argument is strong enough without such aid, but will confine myself to established proofs rather than to theoretical notions.

The idea of adulteration obtains to a large extent in regard to honey; that this is so will not be denied; the glucose idea did prevail, but now the fact that sugar is being extensively recommended and used as food for bees has great weight with would-be consumers, and they do not become consumers simply from fear they will not get pure honey. It is not at all strange that the general public do not understand the matter. Why should they? They simply know that *honey* is, or ought to be, the product of the bees; they have been told by the "Cottons" and others, that bees will store sugar the same as they do honey, and when they find bee-keepers feeding sugar, it is difficult—I might say impossible—to convince them that it is not so fed to be stored and sold as or for honey.

The above is a natural and a logical conclusion, and as such, is to the con-

sumer a fact that will admit of no denial. The remedy is with us. We must learn what right conditions for wintering consist of and in; then we will use pure honey as bee-food, and show the world both by precept and example that our honey is purely gathered nectar, and that it cannot possibly contain any adulterants.

Foxboro, Mass.

For the American Bee Journal.

Care in Making Progress.

REV. L. JOHNSON.

Much harm has been committed in the past among bee-keepers by a too rapid reception of new things, and unless great care is taken a like evil may result from the injudicious use of new things now coming forward. Before using anything we should know for what it is designed, and then how best to attain that end in view.

The new reversible hive may be a a good thing, and in the hands of those who understand bee-culture and have clearly defined ideas of what it is intended for, may accomplish good results. But may there not be some danger of many persons without proper knowledge or experience, taking hold of it and after much expense and trouble, having the sad report to make that they have been humbugged? Yet this may not be the fault of the hive, but entirely for want of proper handling.

To illustrate: Some ten years ago a great deal was said in many sections of the country about "Dividing," "Artificial Swarming," etc., and one enthusiast on the subject went so far as to state that as many as 32 colonies could be made from one in a single season. As a result, many persons without proper knowledge began to rapidly divide their colonies, and divided them to death. One old gentleman with whom I was acquainted, was given 4 colonies in box-hives in the spring of 1876. He got a friend to transfer them for him; when he began dividing and by the first of August he had 21. The next spring he had 21 empty hives—the only bees lost in the neighborhood that winter.

When the honey extractor first came into use, many persons who knew nothing of honey in an unripened state, purchased one, and began throwing out the stores of the same colonies every 3 days. The result was that a lot of unripe, sour honey was placed upon the market, which was utterly unfit for anything. An injury was done to extracted honey that it will take years to overcome. The same mistakes have been made in comb foundation, and introducing the new races of bees. Especially is this true in regard to handling the Cyprian bees. In the hands of those who understand them, I have no doubt they are an acquisition, but so many have taken hold of them without proper knowledge, that their reputation is ruined forever. All of us who have given apiculture much attention for any number of years can call to mind other instances where some actual benefit to our craft has been much injured by its too rapid introduction.

The reversible hive has only been tried by its inventor and one or two others for two seasons. These men are practical apiarists; and in their hands it has done well; but when others with less knowledge and without properly understanding what is intended by this hive, undertake its use, it may receive a backset from which it may not recover in years.

I am in favor of making every progressive step in bee-keeping that is possible; but so much enthusiasm often ushers in a new thing as to do it harm. I would urge bee-keepers to carefully ponder before doing away with the old, tried and profitable standard hives which we now have, and adopting something we do not yet understand. Take hold cautiously, and let those who have time and money with which to experiment, enjoy the benefits for a time. Better lose a little, than through haste and ignorance permanently injure a good thing.

Walton, Ky.

For the American Bee Journal.

Feeding Sugar—The Weather.

JOSHUA BULL.

I have read with much satisfaction the caution that was given on page 195, about feeding sugar to bees; also other articles which have appeared in the BEE JOURNAL upon the same subject. I am heartily glad that this matter is being considered in its true character in relation to the effect it has upon the honey market. Whatever the motive may be on the part of those who feed it, the fact that sugar is fed to the bees has created a suspicion of fraud in the minds of consumers, which has, no doubt, very materially affected the market, by curtailing the demand for honey, through a want of confidence on the part of purchasers as to the purity of the article; and I can see no better way to allay such suspicion, and restore confidence between producer and consumer, than to discontinue the practice of feeding sugar altogether.

We have had a long winter up here in Wisconsin, most of the time quite mild for this latitude, although we had some extremely cold weather. On the morning of Feb. 3, the mercury made a plunge down to 40° below zero; on March 17 we had sharp lightning with heavy thunder and rain. During the first week in April the mercury was down to zero four times. It almost makes one nervous to read in the BEE JOURNAL about bees gathering pollen, drones flying, etc., in other localities, whilst with us the air is chilled and vegetation held in check by large banks of snow and ice, which, however, are now rapidly disappearing.

So far as I have learned, bees that were in good condition last fall, have wintered well in this vicinity; yet considerable losses have occurred where conditions were not right. We are hoping for a good and prosperous season.

This afternoon the clouds have broken away, the sun shines down brightly and warm—mercury up to 58° in northern shade—and the bees are having a great jubilee.

Now winter may go,
With its ice and its snow,
Without any further delay;
For summer is coming,
The bees are out humming,
And the apiarist's heart is gay.

Seymour, Wis., April 12, 1886.

For the American Bee Journal.

Rearing and Introducing Queens.

S. J. YOUNGMAN.

I desire to fully describe what I consider the best manner for rearing queens for home use, and their successful introduction to nuclei prepared for their reception in anticipation of their hatching.

I think it can be said, and with well-founded reasons, that some of the best methods and essential details of queen-rearing have been kept in the back-ground by queen-breeders who are rearing queens for the market, and who have selfishly been the means of materially hindering the progression of that noble art—bee-keeping. In this climate queens may be reared, nuclei formed, and queens fertilized, earlier than natural swarming can be expected to occur. The first essential to successful or early queen-rearing is, of course, in strong, vigorous, well-wintered colonies. Queens are more easily reared by Cyprian, Syrian, or hybrid bees than by pure Italians, and should be given the preference for such work. If the apiarist has any of the new races in his yard, I would also say that queens, particularly the Syrians, are more hardy and strong upon emerging from the cell than are those of the Italians. I have repeatedly seen them take wing when first escaping from the cell, and disappear, but return again in a short time.

Of course every bee-keeper will have some colony in his yard that he prefers to the others, and may wish to breed from this exclusively, which is advisable, and easily done. The first step is to take out one of the central frames of the brood-nest and replace it with one selected that is not over one year old, and one that brood has not been reared in more than once. This comb will usually contain eggs at the end of 24 hours, which may be used at once; but when the eggs are used the average apiarist will usually meet with failure, consequently I would recommend that the eggs remain until they hatch and first reach the larval state. Queens reared from the young larvæ are fully as good as those reared from the eggs.

The colony that is to do the work should now be deprived of its queen, which may be removed with the best frame of brood and adhering bees to

another hive in a distant part of the yard, and quickly be built up to a strong colony by the aid of old combs or frames filled with foundation. I usually remove the queen in the evening, and the next morning all the brood may be removed and distributed among other colonies. From 40 to 48 hours after the removal of the queen, a colony is in readiness to receive the eggs or larvæ from which the queens are to be reared.

Now, to prepare the eggs or larvæ ready for the bees: Take a frame of comb (½ or ⅔ full is as good as any, or if it is all or part *drone comb* it will answer as well); heat a thin case-knife and cut this comb so that it will be about 4 inches from the lower side of the top-bar to the lower side of the comb, forming a semi-circle; the comb will be the shape of a crescent or half-moon, being about 4 inches deep in the middle. Being ready for the larvæ they are now removed from the hive of the favorite colony, and taken immediately to a warm place. I proceed to cut strips from a part where I am able to get cells in rows from 3 to 6 inches long. I leave one row of cells intact, but cut each row of cells at each side through the middle. One side of this strip should now be cut off with the aid of the hot knife, leaving the cells not over ¼ of an inch in depth. The larvæ should now be removed or destroyed in every other cell, not leaving anything. The bees may utilize, in rearing a queen, any room except in the straight row of cells, and there only in every alternate one. Enough of these strips should be prepared to form a row on the under side of the crescent-shaped comb, which may be made to adhere by dipping the side which has the long cells, into a mixture of beeswax and resin—two parts wax and one of resin, heated quite hot in a small, square. shallow dish made of tin or sheet-iron,

The reason for having the comb in the shape of a half-circle, is so that the bees may have plenty of room on all sides of the cells, and give room to pass a sharp knife between the cells without destroying or injuring any of the cells. Under the old way several cells would sometimes be built together so that it would be impossible to remove and separate them without destroying some of them.

The colony is now in condition to put all its energies to cell-building, and will do so as they have no brood to attend to. Their whole attention will be given to the cells, and but a very little honey will be gathered. The prudent bee-keeper will therefore see that they are well supplied with food, and if they should be uneasy and many bees die, some capped drone brood may be given them to advantage; in fact, I think it will be beneficial from the start. The queens will hatch on the 16th day from the day the egg was deposited in the cell. I usually remove them on the 14th day, as all they need after that until they hatch, is the necessary warmth, although the bees will help remove the young queen when she sometimes would not be able to emerge from the cell by her own efforts.

It will be found that the new races of bees, with this method, will average one dozen good cells, and whatever bees are used it will be found that more cells will be built, and they will be larger, contain more of the royal jelly, and that the queens will be larger and more beautiful than when reared under the so-called swarming impulse.

The two most important matters in increase of colonies is to keep the colonies *strong* in bees; a prolific queen is also very important; second, to guard against the chilling and loss of the brood in the newly-formnd nuclei, by a change of temperature or the lack of the requisite number of bees to properly protect the brood from chilling. The cells, if left too long, must be carefully watched, for, as soon as the first queen is hatched, the bees will quickly destroy the remaining cells by biting into them and removing the young queens. I proceed to form the nuclei the evening before I wish to remove the cells, by first taking a frame containing the greatest number of hatching bees, and putting one frame only in a hive, and between two empty combs. If there are not enough adhering bees upon the comb of brood, bees to the amount of from one-half to one pound may be shaken into the hive, according to the weather, being careful in all cases not to get the queen in. The bees should be shut in until morning before being liberated. Some small boards should be set up in front of the hive, so that the bees may mark their new location and not return to the old hive.

Remove all the queen-cells from the hive. The cells may be separated by using the warm knife, leaving a small piece of comb attached to each. To introduce them, all you need to do is to spread one end of the combs in the nucleus, and place the cell in between the bars in such a position that nothing will prevent the queen from emerging from the lower end of the cell. If the queens have hatched on your hands, and you have been fortunate to have saved them, all you need to do is to simply let one run in at the entrance of the hive. The bees will not harm or molest her in the least. No more bees need be added, but after the queen shall have hatched, and the most of the brood also, select another frame of the oldest brood that may be found, and place it in the centre of the nucleus which will serve to add strength to the immature colony, and if for any reason the queen has not hatched or has been lost, you may soon know it, as queen-cells will soon be started if the frame contains any uncapped brood, which is an easier and surer test of queenlessness than not finding the queen.

Some of the advantages of this method of increase will plainly be seen; first, the bees do not waste any of their energies in the wrong direction, but are obliged to work on such eggs or larvæ as are given them; the queens are reared in strong colonies, and I think are superior to queens hatched in the natural way. The bee-keeper need not be without queens, as any one surely will be if they depend upon the bees to rear them under the swarming impulse. I have known a colony of pure Italians to build but one queen-cell, and then it was of such thickness and solidity that the queen could not hatch. I have also known bees to swarm and not leave anything nearer a queen than newly-laid eggs, and without any queen-cells whatever.

This is also the safest manner of introducing queens, for but very few of the nuclei will fail to have a queen. Some may be lost on taking their bridal trip, if the hives are not placed in proper position, and the right distance apart. It will also be seen that it takes but few bees to start a nucleus, as we depend almost entirely upon brood to form them, and brood may be taken every week from a strong colony and not perceptibly weaken it if done judiciously, if the queens are prolific, and none others should be allowed in the apiary of a modern and progressive bee-keeper.

Cato, ⊙ Mich.

For the American Bee Journal.

Bees in a Greenhouse in Winter.

J. A. BALMER.

On Nov. 14, 1885, I was offered a colony of bees. Their owner intended to brimstone them to get the honey, (about 5 lbs). They were in a box-hive, and as the man wanted to save his hive, I undertook to drive the bees. The day was cold, but not freezing. I turned the "gum" upside down and commenced knocking the hive and smoking them, but they would not drive, so I cut out the combs, brushed the bees into a sieve, and brought them home.

I had placed my own bees, that same day, in a sawdust-packed house, and did not care to disturb them; therefore I had to hive these few bees on 3 frames of drawn-out foundation, without a particle of honey or bee-bread in them. I placed them in a greenhouse 12x50 feet. The bees were very numb from cold, but soon recovered under the influence of the greenhouse temperature.

I made them some nice, thick, warm feed, using granulated sugar and water just brought to a boil; to this I added a pinch of tartaric acid. They took the feed readily, and soon made preparations for extending the comb. They flew well every day, and did not struggle much to get out of their confinement; though a few would be lost every day. The point of interest in these bees lies in the fact that they were badly affected with diarrhea from the first day they were put into the greenhouse, and this without pollen. There were a few flowers in the greenhouse, but very few pollen-yielding ones. After they had been in-doors 5 days, there came a warm spell of weather, and I placed them in a sheltered position out-doors; they flew well, but still specked their hive.

While out-doors I made an examination of the hive, and found the queen

laying freely, but of course no larvæ, as there was no bee-bread in the hive. Soon the weather changed and I again moved them in-doors. I kept them two weeks on pure sugar syrup, during which time they drew out and capped three sheets of foundation. And I never saw bees with the diarrhea as bad as they had it.

As I pack my bees without removing any frames, I had no bee-bread or honey to give them; so I went to a neighbor bee-man and got two frames well filled with bee-bread and some honey; one of these I placed in the hive, the other I hung up in the house, and uncapped a little of the honey. Soon the bees were working on the suspended frame, and eventually they removed every particle of honey and bee-bread from it. They were now rearing young bees pretty well, and had a few inches of capped brood. Many of the bees had wax scales sticking to their bodies. They still had the diarrhea very badly, and many bees were dying daily; they would settle on a leaf and gradually stiffen and die.

The temperature of the house ranged from 55° to 65° at night, to 70° or 80° during the day.

This I think is not in accordance with the conclusions arrived at by correspondents of the BEE JOURNAL early last year while discussing the pollen theory. They agreed that cold, and cold alone, was the prime cause of diarrhea among bees. It certainly was not cold in this case, for the temperature was never below 55°, Fahr.

They used the two frames of bee-bread very quickly, in fact so quickly as to lead me to believe that not one-half of it was used for feeding young bees. By Jan. 1st, the supply of bee-bread run out, and bee-rearing stopped; their supplies were now all capped and I then thought that the diarrhea was ended, for they had no pollen; but not so, however, for the same dirty splatches continued to be found on the white-painted sash-bars.

I kept them three weeks without bee-bread, but there was no improvement in their diarrhetic condition. Their number was fast being reduced, so I gave them some flour, and placed a frame of capped stores from their own hive in front of the hive. They then commenced to rear young bees.

My object in placing the frame of honey outside the hive, was to keep them carrying in, and see what they were able to do. On Feb. 1 the queen was laying freely, yet not one-third of her eggs were hatched; the bees, no doubt, ate them.

What was the cause of the incessant diarrhea? It could not have been the cold; and I do not think that eating the eggs would affect their health. Could it have been the excessive moisture in the greenhouse? Most of the bees up to Feb. 1 had been reared since Dec. 1; therefore they knew no other pasture than the greenhouse afforded; and not 5 per cent were lost on the glass by struggling to get out.

I have learned one lesson from these bees that is not recorded in the text-books, namely, that old bees can produce wax at will, and that without the aid of pollen or bee-bread. I would like to have some of the experienced apiarists give their opinions on the above case.

Paris, Ills.

For the American Bee Journal

The Wintering Problem.

S. BITTENBENDER.

This problem seems to be the most important thing to be mastered by the apiarists of to-day. This problem once mastered means one-third less cost in the production of honey. More has been written upon this branch of our growing industry than upon any other. Hundreds of theories have been anvanced through the bee-periodicals, yet all have been found by experience to be only theories.

The hibernation theory, as advanced by Rev. W. F. Clarke, appeared plausible at first, but it is not a solution of the problem at all. Bees in a normal condition in winter have a quiet state of repose, but do not hibernate as some other insects do. My reasons for so believing are: 1. Strong colonies are perfectly quiet, (or hibernating?) in January and February while they are breeding and consuming honey, either in the cellar or out-of-doors. Can bees hibernate while breeding and consuming honey? 2. I care not what temperature the air outside of the hive is (when the hive is in the cellar or on the summer stands.) strong colonies are all the time humming? Can bees hibernate while humming? 3. The ants, while in the state of hibernation, are apparently frozen as hard as ice; pick them up and they will be found as motionless as a stone; here is true hibernation. Bees in this state will not live 48 hours, although I have known them to become seemingly dead for 12 hours (from cold) and yet survive when placed near a fire.

How may we winter our bees on their own combs with natural stores? Here is my theory, which you may call the "October theory" or whatever you please:

There is a law in all nature which requires living things to take periods of repose. Man and the higher orders of creation require a daily repose at night, while most insects, trees, and flowers, require a yearly repose. Violate these laws and you must suffer. Nature provides for all things. She bids our "pets" to discontinue breeding from Oct. 1, to midwinter. Common sense would teach us to suppose that this was the natural time for bees to hibernate or repose. Bees in their natural state in the woods keep themselves in the trunks of trees 4 to 6 inches thick, where the autumnal sun cannot disturb them in their October and November repose. We thwart nature's ways when we put our bees into a ⅞-inch hive and let the sun beat upon it till cold weather comes, disturbing the bee in its natural repose. Bees should be put into the cellar, or packed on their summer stands, as soon as they stop breeding; if they are packed it should be so effectually done that the warmth of the October and November sun cannot allure them out of their hives. Bees contract their well-known complaint in October and November as follows:

During the first cool weather in October, breeding having ceased, they fill themselves with honey preparatory for their natural repose, but in a few days they are disturbed by the warmth of the October sun. They take a flight. The apiarist is happy. The bees unload themselves. I have known them to spot the ground considerably after a cold spell in the fall. The cool October nights cause them to fill themselves with honey again for nature's repose, but another warm day thwarts nature's plans once more. Things continue thus until a temperature of 10° in December persuades the bee-keeper to carry them into the cellar or pack them on their summer stands, "according to scientific principles."

Now in what condition do we find the bees? 1. They are weakened by the loss of their natural repose the same as their owner would be were his quiet sleep to be disturbed every night for the half year. 2. They have already the germ of diarrhea within them. Their intestines are in an abnormal condition, being unnaturally exercised, and weakened by inflammation. 3. They have acquired an unnatural appetite for eating honey. They eat too much, and now being deprived of their natural flights, soon become distended beyond endurance, and with their intestines inflamed, they must have a flight every few weeks or perish. Is it any wonder that we lose our bees when we thus treat the laws of nature? Why do bees cease breeding October 1, if nature does not bid them repose at that time? It is not because they gather no honey, for in February and March they will breed without collecting honey.

In support of the theory of early reposing, I would remind the reader of the fact that a very mild fall, with a late beginning of winter, thus giving bees frequent flights, is a certain forerunner of diarrhea and losses of bees. The fall of 1884 was very mild. Bees took a flight every week till December 10, and never was bee-diarrhea so prevalent in the Unite States as during the succeeding winter.

Last fall my brother and I put 87 colonies into caves; 53 were put in 3 weeks before the usual time—I think about Nov. 10. I never saw bees winter any better than these are wintering; they have no signs of disease whatever. Every flight that bees get after Oct. 1 is a detriment. I doubt whether breeding in this latitude (42°) is any advantage after Oct. 1.

There are other things to be considered in the solution of this wintering problem, such as moisture, food, temperature, etc., but the most important thing is to get the bees in their winter repositories early.

Knoxville, Iowa.

Local Convention Directory.

1886. *Time and place of Meeting.*

Apr. 27.—Des Moines County, at Burlington, Iowa. Jno. Nau, Sec., Middletown, Iowa.

Apr. 29, 30.—Western, at Kansas City, Mo. P. Baldwin, Sec., Independence, Mo.

Apr. 30.—Northern Ohio, at Wellington, O. H. R. Boardman, Sec., E. Townsend, O.

May 1.—Linwood, at Rock Elm, Wis. B. J. Thompson, Sec.

May 4.—W. N. Y. and N. Pa., at Randolph, N. Y. A. D. Jacobs, Sec., Jamestown, N. Y.

May 5, 6.—Texas State, at McKinney, Tex. B. F. Carroll, Sec., Dresden, Tex.

May 11.—Cortland Union, at Cortland, N. Y. D. F. Shattuck, Sec., Homer, N. Y.

May 18.—Central Michigan, at N. Lansing, Mich. E. W. Wood, Sec., N. Lansing, Mich.

May 20.—Wis. Lake Shore Center, at Kiel, Wis. Ferd Zastrow, Sec., Millhome, Wis.

Oct. 19, 20.—Illinois Central, at Mt. Sterling, Ills. J. M. Hambaugh, Sec., Spring, Ills.

Dec. 1, 2.—Michigan State, at Ypsilanti, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER-BOX

Gathering Pollen.—H. E. Hill, Titusville, ☋ Pa., on April 9, 1886, says:

A warm spell of weather about March 25 opened the willow and soft maple. But on March 27 the temperature lowered to 30° above zero, which suspended work in the hives. We are having nice weather now, and the bees are carrying in pollen to-day.

Only One Colony Lost.—W. Stearns, Lima, ☋ O., on April 12, 1886, says:

Here the last season was a very poor one for honey; consequently very many colonies died during the past winter for want of honey. I lost only one colony out of 50 put into the cellar, and that one the mice destroyed. I intend to unite them down to 38. The bees are bringing in pollen to-day for the first.

Reversible Hives, etc.—Edwin Wilby, Toronto, Ont., on April 4, 1886, writes:

I think that Mr. Heddon's new hive is just the thing. I have long thought that the brood-nest should not be disturbed any more than is necessary. I commenced to keep bees 26 years ago, making my own hives, as I was a carriage-maker by trade. I commenced with the box-hive, at which time I had not heard of Mr. Langstroth's book. I afterward bought Langstroth's book, and made his style of hives after that. My bees never were troubled with foul brood, and I never lost any bees by having pollen left in the hives in the winter. I notice on page 184 is an article by Charles F. Muth, and as far as my experience goes I can endorse every word that he says. I wish to thank him for putting his experience in print. I always have kept bees for pleasure, but my son attends to them now. We have 26 colonies in the city, all in good condition, packed in sawdust 2 feet thick, back, front, and on each side of the hives. It has been 23° below zero the past winter here. We had very little surplus honey last summer. All my bees are wintered on the summer stands, 8 inches from the ground, under a water-proof shed. They stand on a platform, and all have 6 inches of sawdust under each hive on the platform. I never lose any except now and then one by a queen dying.

Success in Wintering.—Wm. B. McCormick, Uniontown, ♀ Pa., on April 9, 1886, says:

I have wintered my 25 colonies of bees without any loss—9 colonies in the cellar and 16 packed on the summer stands; both did equally well. I think that my apiary is now entirely clear of foul brood, which destroyed my 40 colonies (save one) during the summer of 1883. I hope we may have a good honey season the coming summer.

Bees have Wintered Well, etc.—2—J. L. Comstock, (36-35), Sac City, ☋ Iowa, on April 12, 1886, writes:

I started with 9 colonies in the spring of 1885, increased them to 36, and took off 500 pounds of surplus honey. On Nov. 28, 1885, I put 36 colonies into the cellar. I put them out on April 7, 1886, and found one colony queenless, so I united it with another, which leaves me 35 good colonies to start with. We organized a bee-keepers' association here on March 27, known as the "Sac County Bee-Keepers' Association." The following officers were duly elected for the ensuing year: President, S. R. Culp; John Barlow, Vice-President; Wm. P. Drewry, Treasurer; J. L. Comstock, Secretary; Executive Committee, Wesley Cheney, Wm. P. Drewry, and Walter Harrison. The association is to meet on the last Saturday of each month at 10 a.m., at the Court House in Sac City, Iowa.

Experience in Wintering.—Thos. S. Wallace, Clayton, ☋ Ills., on March 31, 1886, writes:

I invariably put my bees into the cellar, which is about 16x36 feet with a partition in the centre, and with cemented floor. One room is used to store apples, potatoes, etc., and my bees; the other room is used for a kitchen and dining-room. I place the hives one on the other in rows just so I can pass between them. I close the entrances before I put them into the cellar. After they are all in I go through and let them all out. I have a ventilator in the bottom of each hive. I put about 50 colonies in the cellar about Dec. 1, and 50 more on Dec. 31, 1885. I left them in for about 3 months, when I put them out. I found 5 colonies dead—1 was out of honey, the other 4 had honey but not enough bees to keep up the heat. They had used up the honey that was in reach, but could not spread out to get more. Bees are in good condition up this date, but the weather is very poor for bees. It has been snowing every few days. I keep my bees on honey if they have it; if they have no honey I feed them sugar syrup. I think that pollen is certainly necessary for bees to eat, or nature would not have them gather so much of it. I think that more bees die from eating poor honey than from eating pollen. I do not think that pollen will hurt any healthy colony of bees in a proper place. I think that the moth will wholly subsist on pure wax. I have had them to hatch and breed in nice boxes of white clover honey, and almost destroy it before I would know it. They did not seem to eat the honey, but the wax.

No Dead Bees this Spring.—T. F. Bingham, Abronia, ♀ Mich., on April 8, 1886, writes:

Bees had a nice flight to-day—only one colony dead from those that were wintered out-of-doors. Those in the cellar have been there for 5 months, and are as quiet as when put in. Shall put them out in a day or two. There are no dead bees around here this spring.

Bringing in Honey.—John Rey, East Saginaw, ☉ Mich., on April 8, 1886, says:

My bees have gone to work on the maples to-day, and are bringing in some honey. If the weather keeps warm the willows will be in bloom in a few days, and then the bees can get plenty of pollen. My bees came through the winter in good condition; I did not lose a colony. I think that fully 80 per cent. of the bees in Northern Michigan have wintered.

Bee-Keeping in Kentucky.—G. W. Ashby, Valley Station, ♂ Ky., on April 5, 1886, writes:

For the last 10 days we have had one continued series of rain, hail, and snow storms. During the few days of warm weather that we had in March, the bees brought in pollen plentifully, and some water. I have a few Northern willows that the bees literally covered in their eagerness to gather everything in bloom. I have made some inquiry, and find that there has been but little loss in wintering, except among my bees. I have lost ¼; all by not feeding them early enough to give them time to cap their stores over, consequently it soured, and the capped honey was so scattered that they died, with plenty of honey, but they could not get at it. Some have lost 1 or 2 in 30 colonies; some none in 15 to 20. We have some "bee-gum" men here yet; one has 11, and lost one. He has 2 colonies in patent hives that wintered all right. I engaged to transfer all of his bees

for him, and two or three others want theirs transferred. There is one here who has about 20 large "bee-gums" whose colonies stand year after year and cast very large swarms, most of which go to the woods. He hardly knows what honey is, as he gets so little of it. The white clover, I think, is not hurt. That is our main surplus crop. I have four acres of Alsike, and some melilot.

Working on Oats and Corn.—Dr. C. C. Miller, Marengo, Ills., on April 14, 1886, says:

We have had very little weather for bees to fly, but they worked up about 2 bushels of ground corn and oats yesterday.

Sectional Hives.—H. M. Noble, Swedesburgh, Iowa, writes:

Are not bee-keepers deceived by discarding the Langstroth Hive for the different traps that are being manufactured now? I am about as old a bee-keeper as there is in the United States; I have kept bees over 50 years, and I find that the less fixtures you have the less profit. Why, I saw a bee hive 40 years ago that was in sectional parts so that one part of it could be taken off by cutting the combs with a wire. Any part could be reversed except the top section.

Bee-Keeping in Texas.—J. W. Eckman, Richmond, Texas, on April 6, 1886, writes:

On Jan. 28 bees commenced carrying in pollen. We have had a good deal of cold weather since that time. I had my first swarms on March 31. It is now nearly cold enough for frost, which stopped swarming to-day. From 190 I increased my apiary to 270 last season, and took 23,000 pounds of extracted honey. I have taken out about 1,000 pounds this spring that was left in the hives last fall on account of sickness, and there is about 3,000 or 4,000 pounds more in the hives that should be taken out, but I cannot on account of starting robbing. Our bees do all their swarming in April and the first of May, and gather no surplus honey until the middle or latter part of May, when basswood and horse-mint come into bloom.

Fine Prospect for White Clover.—Geo. W. Morris, Cornishville, Ky., on April 7, 1886, writes:

My bees have wintered well, considering the small amount of attention given them. I lost only one colony out of 20, and found another one that was queenless, which I gave to another weak colony. On March 14, 15, 16, 17, and 18, bees had good flights, and brought in some pollen; since then they have not had much chance to fly on account of cold, rainy weather. In looking over 108 colonies of my neighbor's bees, I found 15 dead colonies. They were, in the most part, black bees that succumbed. We have a fine prospect for white clover this season. I have already seen young bees on the wing. Snow has been falling for two days and nights here; it is now about 4 inches deep.

AMERICAN BEE JOURNAL

Issued every Wednesday by

THOMAS G. NEWMAN & SON,

PROPRIETORS,

923 & 925 WEST MADISON ST., CHICAGO, ILL.

At One Dollar a Year.

ALFRED H. NEWMAN,

BUSINESS MANAGER.

Special Notices.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

Our New Catalogue of Bee-Keepers' Supplies for 1886 is issued, and will be sent to any one desiring a copy. Send name and address, plainly written, on a Postal Card for it.

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the BEE JOURNAL.

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

Frank Leslie's Sunday Magazine is redolent of Spring both in text and illustration. The Easter Festival, which comes this year on Apr. 25, its latest possible date, is largely dealt with. The "Ancient Customs of Easter Day," is a very interesting article, and Dr. Talmage's sermon, "The Queen of Festivals," is a powerful presentation of Easter lessons. "The Flight of the Bells," with its pretty picture, is a quaint French Easter legend. Full installments of the several serials, and many appropriate and enjoyable short articles and poems are in it. Altogether this May number is an exceptionally interesting one.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., April 19, 1886.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Comb is coming forward more freely and prices now are 15@16c. for 1-lb. sections. Extracted is in light demand at 5@7c. California comb honey, in 2-lb. sections, 9@12c.
BEESWAX.—23@24c. per lb. Not much offered.
R. A. BURNETT, 161 South Water St.

NEW YORK.

HONEY.—We now quote: Fancy white comb in 1-lb. sections, 12@13c.; in 2-lb. sections, 9@10c. Fancy buckwheat honey in 1-lb. sections, 9c.; in 2-lb. sections, 7@8c. Off grades 1@2c. per lb. less. Extracted, white, 6@7c; buckwheat, 5@5½c. California, 5@6c.; Southern, as to color and flavor, per gallon, 50@60c.
BEESWAX.—27@28c.
McCAUL & HILDRETH BROS., 34 Hudson St.

BOSTON.

HONEY.—One-lb. sections, white clover, 13@15c; 2-pound sections, 11@13c. Extracted, 6@8c.
BEESWAX.—25 cts. per lb.
BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—White and ex. white comb, 11½@13c.; dark comb, 6½@8c. White extracted, 5½@5½c.; amber, 4@4½c.; dark and candied, 3½@4c.
BEESWAX.—Quotable at 20@23c., wholesale.
O. B. SMITH & Co., 423 Front Street.

DETROIT.

HONEY.—The supply of comb honey is considerably decreased and prices a trifle firmer. Best white in 1-lb. sections 13@14 cts.
BEESWAX.—Scarce at 23@25c.
M. H. HUNT., Bell Branch, Mich.

ST. LOUIS.

HONEY.—Choice comb, 10@12c. Strained, in barrels, 4@5c. Extra fancy of bright color and in No. 1 packages, ¼ advance on above prices. Extracted in barrels, 5@5½.
BEESWAX.—Firm at 22½c. for prime.
D. G. TUTT & CO., Commercial St.

CINCINNATI.

HONEY.—Extracted honey brings 4@8c., and choice comb honey brings 12@15c. in a jobbing way.
BEESWAX.—In demand at 22@25c. for yellow.
C. F. MUTH & SON, Freeman & Central Ave.

CLEVELAND.

HONEY.—One pound sections, 14@15c.; 2-lb. 13c Extracted, 7@8c.
BEESWAX.—Scarce at 25c.
A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—Sales of comb are good, while extracted is very dull and low. One-pound sections are scarce; stocks of all other grades are well supplied. Calif. 2-lbs. bring 11@12c.; Eastern 2-lbs., 12@13c.; 1-lbs., white, 14@15c.; dark, 12@13c. Extracted, 5@6c.; Southern, 3½@4c.
BEESWAX.—23c.
CLEMONS, CLOON & Co., cor. 4th & Walnut.

MILWAUKEE.

HONEY.—This market is very poorly supplied with honey of any kind just now, and comb honey in 1-lb. sections, and extracted in barrels or kegs, is not equal to the demand. We quote: Choice white 1-lb. sections, 16@18c. White extracted in kegs or barrels, 7½@8½c.; dark, in same, 6@7c.
BEESWAX.—Scarce at 25@26c.
A. V. BISHOP, 142 W. Water St.

Perforated-Zinc.—We have laid in a stock of perforated zinc, for excluding drones and queens, and can fill orders for any size of pieces or quantity at 15 cents per square foot, or in full sheets 3x8 feet at $2.75 per sheet. We also have pieces cut to fit the Langstroth hive—19¼x14½—Price 25 cents each.

Kendall's Horse Book.—No book can be more useful to horse owners. It has 35 engravings, illustrating positions of sick horses, and treats all diseases in a plain and comprenensive manner. It has many good recipes, etc. Price, **25c.**, in either **English** or **German.**

There will be a Rush for supplies needed in the apiary after awhile, and we cannot do better than to urge all to look over their stock, ascertain what will be needed, and get it on hand before it is necessary for use—thus avoiding the perplexity consequent upon its possible delay in reaching them in time.

Alsike Clover Seed.—We can furnish Alsike Clover Seed at **$8.50** per bushel—or $2.25 per peck. These prices will take the place of those published in our Catalogue, until further notice.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

Wire Nails have advanced in price, as will be seen by quotations on page 159, last column.

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

Advertisements.

200 **COLONIES** of Choice Italian Bees for Sale. For terms, address
W. J. DAVIS, (box 148),
13W9t YOUNGSVILLE, PA.

BEE Hives and Sections—Send to HERR & BEULE, manufacturers, Beaver Dam, Wis., for price lists. Good materials. Low prices. 10A26t

20 SIMPLICITY Hives with Italian Bees, bred 10 years from Imported mothers, at $6.00.
15W3t A. L. GOULD, Ridgeville, Iroq. Co., Ills.

200 Colonies Italian & Hybrid Bees
FOR SALE,

IN 9 and 10 frame hives, all strong and healthy, wintered in the cellar. Will deliver them aboard of cars—for Italians, **$8.50**; Hybrids at **$7.50**. Will guarantee as represented, or money refunded. **Italian Queens**—Untested, $1.00; Tested, $2.50. Send money by P. O. Order or Registered Letter.
16W8t **L. J. DIEHL**, BUTLER, IND.

JONES' FRAME-PLYERS.

FOR taking frames out of hives, or moving them in any way desired. It is made of galvanized iron, and can be utilized in many ways. It has a long claw for loosening frames, and a hook which may be used for carrying other frames besides the one held by the Plyers. Price, 40 cts., by mail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

MODEST HIVES
FOR SALE CHEAP.

ANY one desiring 11-frame **"Modest Hives,"** nailed and painted, and very cheap, will do well to correspond with the undersigned, who has a quantity he wishes to dispose of. **E. D. PERRY,**
16W1t DUNDEE, ILLS.

COMB FOUNDATION!
Five per cent. Discount.

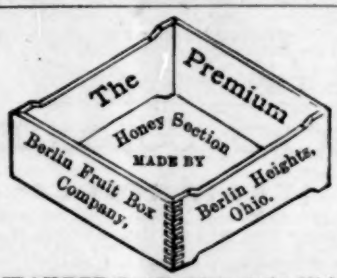
UNTIL May 1, 1886, we will give a Discound of 5 per cent. on all orders for Comb Foundation, from the prices quoted in our Price Lists for 1886. This reduction is made on account of the decline in the price of Beeswax.

CHAS. DADANT & SON, Hamilton, Ill.
THOS. G. NEWMAN & SON, Chicago, Ill.

LOOK! LOOK!

ALL-WOOD Langstroth Frames, same as A. I. Root's make, $1.50 per 100; $12.50 per 1,000. Comb Foundation, made on latest improved Mill. Heavy, in 10 or 20 lb. box, 40 cts. per lb.; Thin, 45c. Simplicity Hives, Sections, Smokers, and Supplies generally. **Pure Italian Bees and Queens** a specialty. Circular and Price-List free.

C. M. DIXON,
16W4t PARRISH, Franklin Co., ILLS.



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SECTIONS.

Down, Down, Goes the Price!

First Quality White Basswood One-Pound SECTIONS—in lots of 500 to 3,000—$4.00 per 1,000.

Special Freight Rates

If 3,000 or more are wanted, write for special prices delivered to you, freight paid by us.

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OF ALL KINDS,

Sections & Comb Foundation
A SPECIALTY.

125 colonies of Bees for sale
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☞ These Bees will be SOLD CHEAP. Send for prices. Also, for Illustrated Price-List.

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ITALIAN BEES FOR SALE.

WE have wintered our 128 Colonies of Bees *without* loss. If you wish to try our *yellow* bees that are bred for business and pleasure, write us at once for particulars.

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Prices Reduced.
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WE have REDUCED the PRICES on One-Piece Sections as follows:

One-Pound Sections, In lots of 500 to 3,000, $4.00 per 1,000, **$4.00**

☞ For larger orders write for prices.

J. FORNCROOK & CO.,
5Ctf Watertown, Wis., April 15, 1886.

☞ Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.

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In order to more fully supply the wants of his customers, has entered into partnership with his neighbor, R. L. Taylor, and will offer for sale, bees (full colonies, or by the pound), queens, Given foundation, white poplar sections, hives, cases, feeders, empty combs, etc., etc. Also hens' eggs, for hatching, of three varieties. For circular and price-list, address **W. Z. HUTCHINSON.**
8Etf ROGERSVILLE, Genesee Co., MICH.

ITALIAN BEES AND QUEENS,
Plymouth Rock Eggs and Rabbits.

Send for Circular to, **C. WEEKS,**
14E4t CLIFTON, TENN.

HOW to MONKEY with BEES

and Price-List of Apiarian Supplies. Sample of Foundation free for your address on a postal card.
J. W. Bittenbender, Knoxville, Marion Co., Iowa.
14Etf

A YEAR AMONG THE BEES,
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A Talk about some of the Implements, Plans and Practices of a Bee-keeper of 25 years' Experience, who has for 8 years made the Production of Honey his Exclusive Business.

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50 to 100 **COLONIES** of very choice Italian Bees for spring delivery. Prices greatly reduced. Nuclei, Queens, and Bees by the pound for the season.

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Wax made up by the lb. or worked for a share of the wax. Samples of foundation free. Price-List ready.

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White as snow. Any size. Very Cheap.

WE manufacture the **Scientific Bee-Hive,** shipped in the flat (body and frames); can be set up in 5 minutes, without hammer or nails. This hive beats them all for comb honey. Send for circular to
16C4t **J. B. MURRAY,** ADA, O.

TESTED ITALIAN QUEENS, $2.25; Untested, $1.25. After May 15, 25 cents less. Bees, $1.00 per lb. MISS A. M. TAYLOR,
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FOR SALE.—Nine Colonies of Bees. Particulars address, Robt. Boylan, Portland, Mich
16W1t

REDUCED PRICES ON SUPPLIES.

One-pound Sections, $4.00 per 1,000. Two-pounds, $4.50 per 1,000.
Langstroth Frames, ready to nail, per hundred, $1.25.
Comb Foundation is subject to a discount of 5 per cent. until May 1.
Glass, 5x6, per box of 240 lights, reduced to $2.50.

Standard and Improved Langstroth Hives, cut and ready to nail, are reduced from 5 to 30 cents per hive, as will be noticed in the following table of **New Prices:**

STANDARD LANGSTROTH HIVES (14x18¾ inches inside).

Quantity.	Numbers 1	2	3	4	5	6	7	8	9	10
5 hives, or more, each	.90	$1.25	$1.60	$1.45	$1.75	$1.20	$1.70	$2.00	$1.30	$1.30
10 hives, or more, each	.88	1.23	1.58	1.43	1.73	1.18	1.68	1.98	1.28	1.28
25 hives, or more, each	.85	1.20	1.55	1.40	1.70	1.15	1.65	1.95	1.25	1.25
50 hives, or more, each	.80	1.15	1.50	1.35	1.65	1.10	1.60	1.90	1.20	1.20
100 hives, or more, each	.75	1.10	1.45	1.30	1.60	1.05	1.55	1.85	1.15	1.15

IMPROVED LANGSTROTH HIVES—With Manipulating Side.

Quantity.	Numbers 1	2	3	4	5	6	7	8	9	10
5 hives, or more, ea.	$1.30	$1.65	$2.00	$1.90	$2.20	$1.65	$2.10	$2.45	$1.65	$1.65
10 hives, or more, ea.	1.28	1.63	1.98	1.88	2.18	1.63	2.08	2.43	1.63	1.63
25 hives, or more, ea.	1.25	1.60	1.95	1.85	2.15	1.60	2.05	2.40	1.60	1.60
50 hives, or more, ea.	1.20	1.55	1.90	1.80	2.10	1.55	2.00	2.35	1.55	1.55
100 hives, or more, ea.	1.15	1.50	1.85	1.75	2.05	1.50	1.95	2.30	1.50	1.50

For description and prices of these hives nailed, we refer our customers to our Catalogue for 1886, pages 4 & 5. These prices for material in the flat, take the place of those on p. 6.

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THE GIVEN PRESS stands in the **front rank** for manufacturing **FOUNDATION in Wired Frames,** as well as foundation for **SECTIONS.** Without a dissenting voice, all of our customers affirm its superiority.

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A. J. COOK, Author and Publisher,
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I AM now prepared to supply dealers and others with

Hives, Sections, Shipping-Crates, Supers, etc.,

of all kinds. I make a specialty of LANGSTROTH ANE MODEST HIVES. Correspondence with supply dealers solicited. My Sections are all made from Poplar. Address,

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11Atf DUNDEE, Kane Co., ILLS.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

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The BRITISH BEE JOURNAL is published every Week, at Ten Shillings and 10d. per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. It is edited by T. W. Cowan, Esq.

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(ESTABLISHED IN 1883.)

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OF

ITALIAN BEES

FOR SALE.—In Langstroth hives, wired foundation frames. Very low. Also 300 of our Improved Sectional Honey-Cases used with or without separators. Circular free.

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THE HORSE,

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A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

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40 CENTS per pound, boxed. VonDorn's Dunham Brood Foundation. **Circular Free.** **None Better**
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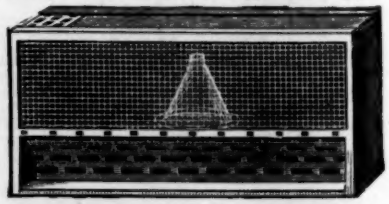

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